

## Note on U Geminorum. By J. Baxendell, Esq.

On the night of 26th Dec. 1862, I was surprised to find U *Geminorum* shining as a star of the  $10\frac{1}{2}$  magnitude, although, according to calculation, it ought at that time to have been nearly in the middle of its phase of minimum brightness, and therefore below the 14th magnitude; but on the 29th, and again on the 30th, it was invisible in a sky which permitted stars of the  $12\frac{1}{4}$  magnitude in the immediate neighbourhood to be seen. The maximum must therefore have occurred previous to the 26th; and fortunately, owing to the kindness of Mr. Knott, I am enabled also to state that it was subsequent to the 20th. In a letter from this careful observer, dated January 6, 1863, he says, "I was not fortunate enough to obtain any observations of the recent unexpected maximum of that *most eccentric variable*, U *Geminorum*. I find from my journal, however, that I *looked for it* on December 20th, *but to no purpose*, though Mr. Pogson's 'g' and 'h' were well in view. The night was but indifferent, but I think we may safely assume the variable to have been below 12.3 or 12.5 mag." Mr. Knott also remarks that his observation, combined with mine, seems to show that either the changes were *very rapid*, or that the maximum was *rather a faint one*.

The occurrence of this maximum is, I believe, the greatest deviation from the usual course of the changes of U *Geminorum* that has yet been observed; and it shows very strikingly the importance of keeping a constant watch over variables of this class. It also shows the necessity of a material modification of the elements derived by Mr. Pogson from the early observations of this Star.

With reference to Mr. Knott's remark, "that either the changes were *very rapid*, or that the maximum was *rather a faint one*," it may be observed that a maximum of equally short duration occurred in November, 1858. On that occasion the variable attained the 9.3 magnitude, and yet the whole time of visibility with ordinary telescopes did not exceed *nine days*.

Manchester, January 8, 1863.

## On the Elchies Equatoreal. By G. Knott, Esq.

Mr. Knott, in a letter dated Woodcroft, Cuckfield, Jan. 8, 1863, after referring to the quadruple star 222 P. I. *Arietis* (one of the objects examined by the Astronomer Royal for Scotland with the Elchies Refractor), writes as follows:—

"It has occurred to me, however, that it may not be uninteresting to the Members to learn that all four components of that group are very readily (I had almost said easily) visible in my  $7\frac{1}{3}$ -inch Alvan Clark refractor, and that I should be inclined to attribute (as has been remarked by Mr. Dawes) any difficulty in catching up the small star 'B' less to its faintness than to its proximity to the brighter star 'A.' We have an illustration of this same principle in the case of the celebrated 'sixth star' in the nebula of *Orion*, for securing which sharp definition is far more necessary than great light in a telescope.

"From observations on Dec. 10, 12, 15, 20, I estimate the magnitudes of the members of the group (222 P. I.),

$$A \ 9.4 : B \ 11.3 : C \ 10.1 : D \ 6;$$

or reducing to Prof. Struve's scale (which is also that of Mr. Dawes),

$$A \ 8.5 : B \ 9.9 : C \ 9.1 : D \ 6$$

"A comparison of these with Mr. Dawes' values seems to indicate that I have rated them rather too high. A and C, however, accord well with  $\Sigma$ 's estimates in the *Mens. Microm.*

"A rough set of wire-micrometer measures, on Dec. 12, yielded the following results, which are, of course, approximate merely:—

A B	Angle of Position	$50^\circ \pm$	Distance	$2\frac{1}{2}'' \pm$	Estimated.
A C	—	166.4	—	37.3	
A D	—	360.8	—	133.6	

"By differentiating D with  $\beta$  *Arietis*, I at once recognised it as the star observed by Piazzi (*Hora* i. No. 222), and was not long in coming to the conclusion that, somehow or other, the magnitudes of A and D in the *Bedford Catalogue* had been interchanged. This little oversight being rectified, the magnitude values of the various meridian and extra-meridian observers are found to be in admirable accordance, and the invariability of the group settled apparently beyond a doubt."

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*Observations of Comet II. 1862, taken at the Observatory of J. Gurney Barclay, Esq., at Leyton, Essex, and communicated by him.* By Hermann Romberg.

The following observations of Comet II. 1862 were taken with the ring-micrometer on the large Refractor, and are corrected for refraction and parallax:—